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EXAMINER	
YANCHUS III, PAUL B	
ART UNIT	**PAPER NUMBER**
2116	

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	**Application No.**	**Applicant(s)**
	09/765,223	BREMER ET AL.
	Examiner	**Art Unit**
	Paul B. Yanchus	2116

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

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DETAILED ACTION

Election/Restrictions

Applicant's arguments filed on 12/20/04 in regards to claims 32-36, 38 and 40-44 have been considered and pare persuasive. The restrictions to claims 32-36, 38 and 40-44 have been withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-7, 11-18, 22-30, 32-38 and 43-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amrany et al., US Patent no. 6,711,207 [Amrany], in view of, Advanced Configuration and Power Interface Specification, Revision 2.0 [ACPI].

Regarding claim 1, Amrany teaches a system, which controls power in a communication system, comprising:

a detector [DSP], said detector configured to detect a packetized digital communication signal associated with a transmitter unit in a communication device configured to transmit said packetized digital communication signal onto a telephony system subscriber loop [DSL, column 9, lines 24-25], said detector configured to generate a control signal in response to the detection

of said communication signal [DSP determines if either transmit or receive bins are being used and controls power accordingly, column 9, lines 30-40]; and

a transmitter power manager [DSP] coupled to said detector and configured to receive said control signal; said transmitter power manager coupled to at least one element residing in said communication device [line driver in hybrid, column 8, lines 55-59], such that when the detector detects said packetized digital communication signal and generates said control signal, said transmitter power manager provides power to said at least one element in response to said control signal [DSP restores data transmit power, column 9, lines 34-40].

Amrany teaches that the power consumed by the element is reduced prior to the generating of the control signal, but does not explicitly teach that the element is powered off prior to the generating of the control signal. ACPI teaches a plurality of individually controllable power states for devices in a system [D0, D1, D2, D3, page 21]. In state D0 a device is completely active and power consumption is the highest. In states D1 and D2 certain functions in a device are disabled and power consumption is reduced. In state D3 power is fully removed from a device [page 21]. It would have been obvious to one of ordinary skill in the art to modify the Amrany system to transition the element to a D3 power state instead of a reduced power (D1 or D2) state when a digital communications signal is not detected. One would be motivated to transition a device to a D3 power state instead of a reduced power (D1 or D2) state during idle periods to eliminate power consumed by the element and consequently minimize power consumption in the system [ACPI, page, 11, Table 2-2].

Regarding claim 2, Amrany teaches that the element [line driver] resides in a transmitter [hybrid] coupled to the subscriber loop [column 5, lines 30-35 and column 8, lines 55-59].

Regarding claim 3, Amrany teaches that the power to the DAC and ADC could also be lowered during states of inactivity [column 8, lines 60-61].

Regarding claims 4-7, Amrany and ACPI teach a system and method, as described above, which controls power in a communication system, but does not specifically explain the process of adjusting the power supplied to various elements in the communication device. However, as indicated by Amrany the process of physically adjusting power to various elements in a device to achieve a lower power state for the device is notoriously well known to those of ordinary skill in the art. Furthermore, the use of transistors as switching circuits also an elementary concept in the field of electronics. It would have been obvious to one of ordinary skill in the art to use well-known transistors as switching devices in order to implement the well-known processes of adjusting power to various elements in a device to achieve a lower power state for the device.

Regarding claim 11, Amrany teaches a method for controlling power in a communication system, the method comprising the steps of:

detecting a packetized digital communication signal, said communication signal being associated with a transmitter unit configured to transmit said digital communication signal onto a telephony system subscriber loop [DSP determines if either transmit or receive bins are being used and controls power accordingly, column 9, lines 30-40];

generating a control signal in response to detecting the presence of said packetized digital communication signal [column 9, lines 30-40];

providing said control signal to a transmitter power manager [column 9, lines 30-40]; and

actuating said transmitter power manager in response to said control signal such that power is provided to at least one element residing in said transmitter unit [DSP restores data transmit power, column 9, lines 34-40].

Amrany teaches that the power consumed by the element is reduced prior to the generating of the control signal, but does not explicitly teach that the element is powered off prior to the generating of the control signal. ACPI teaches a plurality of individually controllable power states for devices in a system [D0, D1, D2, D3, page 21]. In state D0 a device is completely active and power consumption is the highest. In states D1 and D2 certain functions in a device are disabled and power consumption is reduced. In state D3 power is fully removed from a device [page 21]. It would have been obvious to one of ordinary skill in the art to modify the Amrany system to transition the element to a D3 power state instead of a reduced power (D1 or D2) state when a digital communications signal is not detected. One would be motivated to transition a device to a D3 power state instead of a reduced power (D1 or D2) state during idle periods to eliminate power consumed by the element and consequently minimize power consumption in the system [ACPI, page, 11, Table 2-2].

Regarding claims 12 and 13, Amrany and ACPI teach a system and method, as described above, which controls power in a communication system, but does not specifically explain the process of adjusting the power supplied to various elements in the communication device. However, as indicated by Amrany the process of physically adjusting power to various elements in a device to achieve a lower power state for the device is notoriously well known to those of ordinary skill in the art. Furthermore, the use of transistors as switching circuits also an elementary concept in the field of electronics. It would have been obvious to one of ordinary

skill in the art to use well-known transistors as switching devices in order to implement the well-known processes of adjusting power to various elements in a device to achieve a lower power state for the device.

Regarding claim 14, Amrany further teaches a method comprising the steps of:

generating a second control signal in response to the absence of said packetized digital communication signal [DSP determines that data transmission bins have been unused for a period of time, column 8, lines 51-53];

providing said second control signal to said transmitter power manager [column 8, lines 51-55]; and

actuating said transmitter power manager in response to said second control signal such that power is removed from said at least one element [line driver] residing in said transmitter unit [hybrid, column 8, lines 53-61].

Regarding claim 17, Amrany teaches that the element [line driver] resides in a transmitter [hybrid] coupled to the subscriber loop [column 5, lines 30-35 and column 8, lines 55-59].

Regarding claim 18, Amrany teaches that the power to the DAC and ADC could also be lowered during states of inactivity and subsequently restored to normal when communication activity is detected [column 8, lines 60-61].

Regarding claim 22, Amrany teaches a system for controlling power in a communication system, comprising:

means for detecting a packetized digital communication signal [DSP determines if either transmit or receive bins are being used and controls power accordingly, column 9, lines 30-40], said packetized digital communication signal being associated with a transmitter unit configured

to transmit said packetized digital communication signal onto a telephony system subscriber loop [DSL, column 9, lines 24-25];

means for generating a control signal in response to detecting the presence of said packetized digital communication signal [column 9, lines 30-40];

means for providing said control signal to a transmitter power manager column 9, lines 30-40; and

means for actuating said transmitter power manager in response to said control signal such that power is provided to at least one element [line driver in hybrid, column 8, lines 55-59] residing in said transmitter unit [DSP restores data transmit power, column 9, lines 34-40].

Amrany teaches that the power consumed by the element is reduced prior to the generating of the control signal, but does not explicitly teach that the element is powered off prior to the generating of the control signal. ACPI teaches a plurality of individually controllable power states for devices in a system [D0, D1, D2, D3, page 21]. In state D0 a device is completely active and power consumption is the highest. In states D1 and D2 certain functions in a device are disabled and power consumption is reduced. In state D3 power is fully removed from a device [page 21]. It would have been obvious to one of ordinary skill in the art to modify the Amrany system to transition the element to a D3 power state instead of a reduced power (D1 or D2) state when a digital communications signal is not detected. One would be motivated to transition a device to a D3 power state instead of a reduced power (D1 or D2) state during idle periods to eliminate power consumed by the element and consequently minimize power consumption in the system [ACPI, page, 11, Table 2-2].

Regarding claims 23 and 24, Amrany and ACPI teach a system and method, as described above, which controls power in a communication system, but does not specifically explain the process of adjusting the power supplied to various elements in the communication device. However, as indicated by Amrany the process of physically adjusting power to various elements in a device to achieve a lower power state for the device is notoriously well known to those of ordinary skill in the art. Furthermore, the use of transistors as switching circuits also an elementary concept in the field of electronics. It would have been obvious to one of ordinary skill in the art to use well-known transistors as switching devices in order to implement the well-known processes of adjusting power to various elements in a device to achieve a lower power state for the device.

Regarding claim 25, Amrany teaches a system further comprising:

means for generating a second control signal in response to the absence of said packetized digital communication signal [DSP determines that data transmission bins have been unused for a period of time, column 8, lines 51-53];

means for providing said second control signal to said transmitter power manager [column 8, lines 51-55]; and

means for actuating said transmitter power manager in response to said second control signal such that power is removed from said at least one element residing in said transmitter unit [line driver in hybrid, column 8, lines 53-61].

Regarding claims 26 and 27, Amrany and ACPI teach a system and method, as described above, which controls power in a communication system, but does not specifically explain the process of adjusting the power supplied to various elements in the communication device.

However, as indicated by Amrany the process of physically adjusting power to various elements in a device to achieve a lower power state for the device is notoriously well known to those of ordinary skill in the art. Furthermore, the use of transistors as switching circuits also an elementary concept in the field of electronics. It would have been obvious to one of ordinary skill in the art to use well-known transistors as switching devices in order to implement the well-known processes of adjusting power to various elements in a device to achieve a lower power state for the device.

Regarding claim 28, Amrany teaches that the element [line driver] resides in a transmitter [hybrid] coupled to the subscriber loop [column 5, lines 30-35 and column 8, lines 55-59].

Regarding claim 29, Amrany teaches that the power to the DAC and ADC could also be lowered during states of inactivity and subsequently restored to normal when communication activity is detected [column 8, lines 60-61].

Regarding claim 30, Amrany teaches a system which controls power to selected elements, comprising: a communication signal transmitter system, said communication signal transmitter system further comprising:

at least one transmitter unit [hybrid, column 8, lines 55-59] configured to transmit said packetized digital communication signal onto a telephony system subscriber loop [DSL, column 9, lines 24-25];

at least one detector [DSP] configured to detect said packetized digital communication signal associated with said at least one transmitter unit, said detector further configured to generate a control signal in response to the detection of said packetized digital communication

signal [DSP determines if either transmit or receive bins are being used and controls power accordingly, column 9, lines 30-40]; and

at least one transmitter power manager transmitter [DSP] uniquely coupled to said at least one detector and configured to receive said control signal, said transmitter power manager coupled to at least one element residing in said at least one transmitter unit, such that when said detector detects said communication signal and generates said control signal, said transmitter power manager provides power to said at least one element in response to said control signal [DSP restores data transmit power, column 9, lines 34-40].

Amrany teaches that the power consumed by the element is reduced prior to the generating of the control signal, but does not explicitly teach that the element is powered off prior to the generating of the control signal. ACPI teaches a plurality of individually controllable power states for devices in a system [D0, D1, D2, D3, page 21]. In state D0 a device is completely active and power consumption is the highest. In states D1 and D2 certain functions in a device are disabled and power consumption is reduced. In state D3 power is fully removed from a device [page 21]. It would have been obvious to one of ordinary skill in the art to modify the Amrany system to transition the element to a D3 power state instead of a reduced power (D1 or D2) state when a digital communications signal is not detected. One would be motivated to transition a device to a D3 power state instead of a reduced power (D1 or D2) state during idle periods to eliminate power consumed by the element and consequently minimize power consumption in the system [ACPI, page, 11, Table 2-2].

Regarding claims 32-35, Amrany teaches a method for facilitating compact construction of a communiation system, comprising:

powering down at least one selected component [line driver] in each of a plurality of digital communication system devices during periods of communication inactivity of that digital communication system device [hybrid, column 8, lines 53-61];

detecting an incoming communication signal to one of the digital communication system devices, the detection corresponding to a period of communication activity [column 9, lines 30-40];

powering the selected component during the period of communication activity [column 9, lines 34-40];

powering down the selected component during subsequent periods of communication inactivity [column 8, lines 53-61]; and

compactly constructing the communication system by arranging the plurality of digital communication system devices in the communication system in proximity to each other [Figure 3].

Amrany teaches that the power consumed by the element is reduced prior to the generating of the control signal, but does not explicitly teach that the element is powered off prior to the generating of the control signal. ACPI teaches a plurality of individually controllable power states for devices in a system [D0, D1, D2, D3, page 21]. In state D0 a device is completely active and power consumption is the highest. In states D1 and D2 certain functions in a device are disabled and power consumption is reduced. In state D3 power is fully removed from a device [page 21]. It would have been obvious to one of ordinary skill in the art to modify the Amrany system to transition the element to a D3 power state instead of a reduced power (D1 or D2) state when a digital communications signal is not detected. One would be motivated to

transition a device to a D3 power state instead of a reduced power (D1 or D2) state during idle periods to eliminate power consumed by the element and consequently minimize power consumption in the system [ACPI, page, 11, Table 2-2].

Amrany and ACPI teach powering off the element during periods of inactivity, but do not explicitly state that heat generated by the element is reduced when it is powered off. However, it is a physical property of electrical devices that the amount of heat dissipated by a device is proportional to the amount of power consumed by the device. Therefore, reducing the heat generated by the element is an inherent feature in the teachings of Amrany and ACPI, since Amrany and ACPI teaches powering off a transmitter element during periods of inactivity.

Regarding claim 36, Amrany and ACPI teach powering off the element during periods of inactivity, but do not explicitly state that heat generated by the element is reduced when it is powered off. However, it is a physical property of electrical devices that the amount of heat dissipated by a device is proportional to the amount of power consumed by the device. Therefore, reducing the heat generated by the element is an inherent feature in the teachings of Amrany and ACPI, since Amrany and ACPI teaches powering off a transmitter element during periods of inactivity. Amrany also teaches compactly constructing the communication system by arranging the plurality of digital communication system devices in the communication system in proximity to each other [Figure 3].

Regarding claim 37, Amrany and ACPI teach a method further comprising the steps of:

powering off said element residing in said transmitter unit before the detecting of said packetized digital communication signal [Amrany, column 8, lines 53-61];

detecting an absence of said packetized digital communication signal [Amrany, column 8, lines 51-53];

powering off said element in response to detecting said absence of said packetized digital communication signal [Amrany, column 8, lines 53-61].

Amrany and ACPI teach powering off the element during periods of inactivity, but do not explicitly state that heat generated by the element is reduced when it is powered off. However, it is a physical property of electrical devices that the amount of heat dissipated by a device is proportional to the amount of power consumed by the device. Therefore, reducing the heat generated by the element is an inherent feature in the teachings of Amrany and ACPI, since Amrany and ACPI teaches powering off a transmitter element during periods of inactivity.

Regarding claim 38, Amrany also teaches compactly constructing the communication system by arranging the plurality of digital communication system devices in the communication system in proximity to each other [Figure 3].

Regarding claim 43, Amrany and ACPI teach a method further comprising the steps of:

means for powering off said element residing in said transmitter unit before the detecting of said packetized digital communication signal [Amrany, column 8, lines 53-61];

powering off said element during a subsequent absence of said packetized digital communication signal [Amrany, column 8, lines 53-61].

Amrany and ACPI teach powering off the element during periods of inactivity, but do not explicitly state that heat generated by the element is reduced when it is powered off. However, it is a physical property of electrical devices that the amount of heat dissipated by a device is proportional to the amount of power consumed by the device. Therefore, reducing the heat

generated by the element is an inherent feature in the teachings of Amrany and ACPI, since Amrany and ACPI teaches powering off a transmitter element during periods of inactivity. Amrany also teaches compactly constructing the communication system by arranging the plurality of digital communication system devices in the communication system in proximity to each other [Figure 3].

Regarding claim 44, Amrany further discloses powering down at least one selected element in the system during periods of communication inactivity of the system [column 8, lines 53-61].

Amrany and ACPI teach powering off the element during periods of inactivity, but do not explicitly state that heat generated by the element is reduced when it is powered off. However, it is a physical property of electrical devices that the amount of heat dissipated by a device is proportional to the amount of power consumed by the device. Therefore, reducing the heat generated by the element is an inherent feature in the teachings of Amrany and ACPI, since Amrany and ACPI teaches powering off a transmitter element during periods of inactivity. Amrany also teaches compactly constructing the communication system by arranging the plurality of digital communication system devices in the communication system in proximity to each other [Figure 3]. Amrany also teaches compactly constructing the communication system by arranging the plurality of digital communication system devices in the communication system in proximity to each other [Figure 3].

Claims 8-10, 19-21 and 39-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amrany et al., US Patent no. 6,711,207 [Amrany] and Advanced Configuration and Power Interface Specification, Revision 2.0 [ACPI], in view of, Helms et al., US Patent no. 6,144,695 [Helms].

Regarding claims 8, 19-21 and 39-42, Amrany and ACPI teach a system and method, as described above, which controls power in a communication device in a communication system located at a central office, but does not specifically disclose that the system can comprise multiple communication devices. However, as disclosed by Helms, it is well known in the art that a central office will typically possess a multitude of communications devices [DSL modems], which operate to serve a multitude of customers. It would have been obvious to one of ordinary skill in the art to apply the teachings of Amrany and ACPI to a plurality of communications devices in a communications system in order to reduce the substantial amount of power that is consumed by the plurality of communications devices.

Regarding claims 9 and 10, Amrany and ACPI teach a system, as described above, which controls power in a communication system, but does not specifically explain the process of adjusting the power supplied to various elements in the communication device. However, as indicated by Amrany the process of physically adjusting power to various elements in a device to achieve a lower power state for the device is notoriously well known to those of ordinary skill in the art. Furthermore, the use of transistors as switching circuits also an elementary concept in the field of electronics. It would have been obvious to one of ordinary skill in the art to use well-known transistors as switching devices in order to implement the well-known processes of adjusting power to various elements in a device to achieve a lower power state for the device.

Regarding claim 40-42, Amrany also teaches compactly constructing the communication system by arranging the plurality of digital communication system devices in the communication system in proximity to each other [Figure 3].

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Amrany et al., US Patent no. 6,711,207 [Amrany] and Advanced Configuration and Power Interface Specification, Revision 2.0 [ACPI], in view of, Applicant's Admitted Prior Art [AAPA].

Amrany and ACPI teach a system, as described above, which controls power in a communication system, but does not specifically teach that the transmitter adheres to an OSI seven-layer model. However, AAPA states that the OSI seven-layer model is well known in the art [page 21, lines 20-23]. It would have been obvious to one of ordinary skill in the art to configure the transmitter disclosed by Amrany and ACPI to an OSI seven-layer model in order to ensure compatibility with conventional data transmission formats.

Response to Arguments

Applicant's arguments with respect to claims 1-31, 37 and 39 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul B. Yanchus whose telephone number is (571) 272-3678. The examiner can normally be reached on Mon-Thurs 8:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H. Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Paul Yanchus
April 13, 2005

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